ENVIRONMENTAL SERVICES
SPB05-894P-N

1. PARTIES

THIS CONTRACT, is entered into by and between the State of Montana, Department of Administration, State Procurement Bureau, (hereinafter referred to as "the State"), whose address and phone number are Room 165 Mitchell Building, 125 North Roberts, PO Box 200135, Helena MT 59620-0135, (406) 444-2575 and **Geum Environmental Consulting, Inc.**, (hereinafter referred to as the "Contractor"), whose nine digit Federal ID Number, address and phone number are 35-2219846, 307 State St. PO Box 1956, Hamilton MT 59840 and (406) 363-2353.

THE PARTIES AGREE AS FOLLOWS:

2. PURPOSE

The purpose of this term contract is to establish a list of Environmental Service Providers in several service areas. All qualified offerors will be assembled into a multiple contractor term contract for use by state agencies and other public procurement units. The State makes no guarantee of use by any agency-authorized access to this term contract. However, through data conveyed by the Montana Department of Environmental Quality, Montana Department of Natural Resources and Conservation, and Montana Fish, Wildlife and Parks, it is anticipated that this term contract should access approximately 2.5 million dollars or more annually.

3. EFFECTIVE DATE, DURATION, AND RENEWAL

3.1 Contract Term. This contract shall take effect upon execution of all signatures, and terminate on June 30, 2007, unless terminated earlier in accordance with the terms of this contract. (Mont. Code Ann. § 18-4-313.)

3.2 Contract Renewal. This contract may, upon mutual agreement between the parties and according to the terms of the existing contract, be renewed in one-year intervals, or any interval that is advantageous to the State, for a period not to exceed a total of four additional years. This renewal is dependent upon legislative appropriations.

3.3 Addition of Analytical Laboratory Contractor. Proposals will be accepted between April 1 and May 1 of each calendar year from current firms requesting review of their qualifications to perform Analytical Laboratory Services as originally requested under RFP SPB05-894P. The state will evaluate each proposal received in the exact manner in which the original proposals for other categories were evaluated. If proposal passes the requirements as evaluated to perform Analytical Lab Services, the state will update that firms term contract to include the Analytical Lab Services category contingent on said firm being in good standing otherwise.

4. NON-EXCLUSIVE CONTRACT

The intent of this contract is to provide state agencies with an expedited means of procuring supplies and/or services. This contract is for the convenience of state agencies and is considered by the State Procurement Bureau to be a "Non-exclusive" use contract. Therefore, agencies may obtain this product/service from sources other than the contract holder(s) as long as they comply with Title 18, MCA, and their delegation agreement. The State Procurement Bureau does not guarantee any usage.

5. COOPERATIVE PURCHASING

Under Montana law, public procurement units, as defined in section 18-4-401, MCA, have the option of cooperatively purchasing with the State of Montana. Public procurement units are defined as local or state public procurement units of this or any other state, including an agency of the United States, or a tribal procurement unit. Unless the bidder/offeror objects, in writing, to the State Procurement Bureau prior to the

award of this contract, the prices, terms, and conditions of this contract will be offered to these public procurement units.

6. TERM CONTRACT REPORTING

Term contract holder(s) shall furnish annual reports of term contract usage. Each report shall contain complete information on all public procurement units utilizing this term contract. Minimum information required to be included in usage reports: name of the agency or governmental entity who contacted you regarding a potential project; project title; agency contact person; if the project was not successfully negotiated, state the reason; number and title of contracts received; total dollar amounts for contracts received; the names of your company personnel involved in the project; and project status as of usage report date. The report for this term contract will be due on July 20th of each year.

Reported volumes and dollar totals may be checked by the State Procurement Bureau against State records for verification. Failure to provide timely or accurate reports is justification for cancellation of the contract and/or justification for removal from consideration for award of contracts by the State.

7. COST/PRICE ADJUSTMENTS

7.1 Cost Increase by Mutual Agreement. After the initial term of the contract, each renewal term may be subject to a cost increase by mutual agreement. Contractor must provide written, verifiable justification for any cost adjustments they request during each renewal period. Contractor shall provide its cost adjustments in both written and electronic format.

7.2 Differing Site Conditions. If, during the term of this contract, circumstances or conditions are materially different than set out in the specifications, the Contractor may be entitled to an equitable adjustment in the contract price. The Contractor shall immediately cease work and notify, in writing, the State of any such conditions necessitating an adjustment as soon as they are suspected and prior to the changed conditions affecting the performance of this contract. Any adjustment shall be agreed upon in writing by both parties to the contract.

7.3 Cost/Price Adjustment. All requests for cost/price adjustment must be submitted between April 1st and April 30th along with written justification. Requests received after April 30th will not be considered unless written approval from the SPB Contracts Officer is given to submit at a later date. In no event will cost/price adjustments be allowed beyond May 15th. All requests that are approved will be incorporated by contract amendment and made effective July 1st of the next approved renewal period.

8. SERVICES AND/OR SUPPLIES

8.1 Service Categories. Contractor agrees to provide to the State the following services:

Geographic Information Systems (GIS) Services. The State, and in particular DEQ, will need assessments that characterize a watershed and identify and quantify all probable sources of pollutants. GIS maps will be required for every waterbody that is assessed. Thematic maps may include, but are not limited to: land ownership, land use, topography, hydrology, soils, precipitation, and/or endangered species distribution. In addition, DEQ may request that GIS applications be used to facilitate the interpretation and analysis of digital images and/or other georeferenced data.

Revegetation Services. Revegetation Specialists are utilized by the State and other governmental entities to enhance and complete environmental project tasks. The services offered by Revegetation Specialists are planning, designing, implementation along with providing of supplies, materials and equipment necessary to carryout the tasks. If a firm does not have the staff or equipment to implant a project, they must then be able to demonstrate a plan for delivery of product and implementation of a project through subcontracting or professional cooperative agreements.

8.2 Reuse of Documents. When the projects dictate a design or engineered approach, the State agrees that it will not apply the Contractor's designs to any other projects.

9. ENGINEERING ACCESS

All of the firms selected may need to have access to engineering services depending on the nature of the project. The contractor(s) will be expected to use their own best judgment as to whether engineering services are needed for a given project. However, traditional engineering methodologies are not the emphasis of this RFP. It is a violation of State Statute to practice engineering or land surveying without a license.

10. PROJECT SELECTION

10.1 Project Identification. The State will be responsible for identifying projects, contacting landowners and securing necessary permission/cooperation agreements, selecting a contractor, writing grant applications and approving project payments.

10.2 Hazardous Materials. The State will not initiate projects where it is known that hazardous materials are present. If there is an indication of a potential of hazardous materials, then the State will do testing prior to contacting the contractor. However, there is always the possibility of unforeseen problems resulting in the stoppage of a project.

10.3 Meetings. The selected contractor may be required to meet with State personnel at the project site to conduct a site evaluation, discuss project issues and begin the negotiation process on project feasibility, conceptual design and costs for each project.

10.4 Approach Expectations. In the case of restoration activities, the agency will identify the preferred techniques. The determination made by the State may define which contractor(s) are contacted for project initiation. The State is always open to new and innovative approaches that accomplish project goals.

11. SELECTING A CONTRACTOR

The State may select a term contract holder from the Environmental Services contract home page as provided under the state's website address http://www.discoveringmontana.com/doa/gsd/procurement/TermContracts/environservices/Default.asp, taking into consideration such things as the contractor's area of expertise, requirements and location of the project, the contractor's availability and access to resources necessary to efficiently and effectively complete the project, demonstrated excellent past performance on State and public projects, identified subcontractors and total project cost.

General. Ordering agencies shall use the procedures in this section when ordering services priced at hourly rates as established by each Term Contract (TC). The applicable service categories are identified in each TC along with the contractor's price lists.

Request for Quotation (RFQ) procedures. The ordering agency must provide an RFQ, which includes the statement of work and limited, but specific evaluation criteria (*e.g.*, experience and past performance), to TC contractors that offer services that will meet the agency's needs. The RFQ may be posted to the agency's state website to expedite responses.

Statement of Work (SOWs). All SOW's shall include at a minimum a detailed description of the work to be performed, location of work, period of performance, deliverable schedule, applicable performance standards and any special requirements (e.g., security clearances, travel, special knowledge).

(1) Ordering agency may select a contractor from the appropriate service category and directly negotiate a mutually acceptable project based on a sudden and unexpected happening or unforeseen occurrence or condition, which requires immediate action. (Exigency).

(2) Ordering agency may place orders at or below the $5,000 threshold with any TC contractor that can meet the agency's needs. The ordering agency should attempt to distribute orders among all service category contractors.

(3) For orders estimated to exceed $5,000 but less than $25,000.

(i) The ordering agency shall develop a statement of work.
(ii) The ordering agency shall provide the RFQ (including the statement of work and evaluation criteria) to at least three TC contractors that offer services that will meet the agency's needs.
(iii) The ordering agency shall request that contractors submit firm-fixed prices to perform the services identified in the statement of work.

(4) For orders estimated to exceed $25,000. In addition to meeting the requirements of (3) above, the ordering agency shall:

(i) Provide the RFQ (including the statement of work and the evaluation criteria) to a minimum of six service category TC contractors (if category has less than 6, all contractors will be offered an RFQ) with a 50% replacement factor for each subsequent request for quote in the same service category.

Evaluation. The ordering agency shall evaluate all responses received using the evaluation criteria provided in the RFQ to each TC contractor. The ordering agency is responsible for considering the level of effort and the mix of labor proposed to perform a specific task being ordered, and for determining that the total price is reasonable. The agency will place the order with the contractor that represents the best value. After award, ordering agencies will provide timely notification to unsuccessful TC contractors. If an unsuccessful TC contractor requests information on a task order award that was based on factors other than price alone, a brief explanation of the basis for the award decision shall be provided.

Minimum documentation. The ordering agency shall document:
(1) The TC contractors considered, noting the contractor from which the service was purchased.
(2) A description of the service purchased.
(3) The amount paid.
(4) The evaluation methodology used in selecting the contractor to receive the order.
(5) The rationale for making the selection.
(6) Determination of price fair and reasonableness.

Agency project task orders will be utilized to finalize the project. Only written addenda will be used for adjustments of the task orders and must be signed by both parties. All task orders must contain signatures from both parties and appropriate agency legal review as directed in their procurement policy.

The State will monitor contractor selection by using the information provided in the annual TC usage reports.

Contractor's who fail to respond to three RFQ opportunities within a one-year period between July 1st and June 30th may be removed from the qualified list of contractors.

12. CONTRACTOR RESPONSIBILITIES

12.1 Supervision and Implementation. The selected contractor for an individual project will be responsible for the supervision and implementation of the approach and will be responsible for oversight of work performed by all subcontractors. In most cases the contractor will provide and be responsible for all the necessary equipment, materials, supplies and personnel necessary for proper execution of the work. However, the State reserves the right to hire subcontractors (equipment and/or labor) if it will provide a cost savings to the State. The selected contractor will also be responsible for clean up of the sites if necessary and must have the sites inspected by the State immediately prior to completion.

12.2 On-Site Requirements. When a contractor is contacted by the State to discuss a project, the State and the contractor may visit the job site if deemed necessary by the Project Manager, to become familiar

with conditions relating to the project and the labor requirements. The State will provide a detailed scope of work for the project and request the contractor supply the State with a response to project approach, cost, timeframe and any other information deemed necessary by the State to make a selection or complete a contract negotiation.

In the cases of Restoration or On-The-Ground Activities, the contractor shall adequately protect the work, adjacent property, and the public in all phases of the work. They shall be responsible for all damages or injury due to their action or neglect.

The contractor shall maintain access to all phases of the contract pending inspection by the State, the landowner, or their representative. All interim or final products funded by the contract will become the property of the State or Cooperative Purchaser upon payment for said products.

All work rejected as unsatisfactory shall be corrected prior to final inspection and acceptance. The contractor shall respond within seven calendar days after notice of observed defects has been given and shall proceed to immediately remedy these defects. Should the contractor fail to respond to the notice or not remedy the defects, the State may have the work corrected at the expense of the contractor.

12.3 Clean Up (when project tasks require). The contractor shall:

- Keep the premises free from debris and accumulation of waste;
- Clean up any oil or fuel spills;
- Keep machinery clean and free of weeds;
- Remove all construction equipment, tools and excess materials; and
- Perform finishing site preparation to limit the spread of noxious weeds before final payment by the State.

12.4 Applicable Laws. The contractor shall keep informed of, and shall comply with all applicable laws, ordinances, rules, regulations and orders of the City, County, State, Federal or public bodies having jurisdiction affecting any work to be done to provide the services required. The contractor shall provide all necessary safeguards for safety and protection, as set forth by the United States Department of Labor, Occupational Safety and Health Administration.

12.5 Cooperation. The contractor shall work closely with the States analytical consultants, (i.e. environmental laboratories and taxonomists) to develop the desired products.

12.6 Work Acceptance. The contractor is responsible for project oversight as needed. The State may also periodically provide personnel for administrative oversight from the initiation of the contract through project completion. All work will be inspected by the State or designated liaison prior to approval of any contract payments. All work rejected as unsatisfactory shall be corrected prior to final inspection and acceptance. Contractor shall respond within seven calendar days after notice of defects has been given by the State and proceed to immediately remedy all defects.

12.7 Records. The contractor will supply the State with documentation, when requested, of methods used throughout project implementation. Contractor will maintain records for themselves and all subcontractors of supplies, materials, equipment and labor hours expended.

12.8 Communication. Remoteness of project sites may necessitate that the contractor have some form of field communication such as a cellular phone. This communication is necessary to enable the State to respond to public concerns related to the project, accidents, inspections, or other project issues that require immediate feedback. In addition, the State or Cooperative Purchaser may require scheduled communication at agreed upon intervals. The communication schedule will be dependent upon the project circumstances and requirements of the contracting agency. In the case when a communication schedule is included in the Scope of Work, the schedule will commence when the contractor initiates the project.

12.9 Change of Staffing. Since qualifications of personnel were key in determining which offerors were selected to be on this TC, a written notification of any changes in key personnel must be made to the

state agency, prior to entering into negotiations to perform any specific work scope. Contractor shall replace such employee(s) at its own expense with an employee of substantially equal abilities and qualifications without additional cost to the agency. If these staffing changes cause the contractor to no longer meet the qualifications stated herein, that firm will be removed from the service area of this TC. Failure to notify the state agency of staffing changes could result in the contractor being removed from the TC listing and possible suspension from bidding on other state projects.

12.10 Collaboration. The State encourages collaboration between contractors to increase the scope of services offered. In cases where the chosen contractor is not able to provide all services needed for the project, the State will expect the chosen contractor to contact other contractors on this list to negotiate subcontracts for these services before going elsewhere. Exceptions to this strategy will be evaluated on a case-by-case basis.

12.11 Subcontractors, Project Budget and Invoicing. All subcontractors to be used in any project must be approved by the authorized entity initiating the project. Project budgets will be negotiated for each individual project contract. However, all rates, terms and conditions set forth in this term contract will be applied to individual contracts. Subcontractor is defined as anyone other than the prime contractor having substantial direct involvement in a specific project.

The State reserves the right to choose the invoicing method from the following:

- Prime contractor's billing will include the subcontractors charges and payment will be made to the prime, or
- Prime and subcontractors will bill the State separately and the State will pay each directly.

13. CONSIDERATION/PAYMENT

13.1 Payment Schedule. In consideration for the services to be provided, the State shall pay according to the negotiated agreement for each project. Hourly rates and miscellaneous charges as provided in Attachment B shall apply.

13.2 Withholding of Payment. The State may withhold payments to the Contractor if the Contractor has not performed in accordance with this contract. Such withholding cannot be greater than the additional costs to the State caused by the lack of performance.

14. CONTRACTOR REGISTRATION

The Contractor will be registered with the Department of Labor and Industry under sections 39-9-201 and 39-9-204, MCA, *prior* to contract execution. The State cannot execute a contract for construction to a Contractor who is not registered. (Mont. Code Ann. § 39-9-401.)

Contractor Registration Number: 149595

15. CONTRACTOR WITHHOLDING

Section 15-50-206, MCA, requires the state agency or department for whom a public works construction contract over $5,000 is being performed, to withhold 1 percent of all payments and to transmit such monies to the Department of Revenue.

16. MONTANA PREVAILING WAGE REQUIREMENTS

Unless superseded by federal law, Montana law requires that contractors and subcontractors give preference to the employment of Montana residents for any public works contract in excess of $25,000 for construction or nonconstruction services in accordance with sections 18-2-401 through 18-2-432, MCA, and all administrative rules adopted pursuant thereto. Unless superseded by federal law, at least 50% of the workers of each contractor engaged in construction services must be performed by bona fide Montana residents. The Commissioner of the Montana Department of Labor and Industry has established the resident requirements in

accordance with sections 18-2-403 and 18-2-409, MCA. Any and all questions concerning prevailing wage and Montana resident issues should be directed to the Montana Department of Labor and Industry.

In addition, unless superseded by federal law, all employees working on a public works contract shall be paid prevailing wage rates in accordance with sections 18-2-401 through 18-2-432, MCA, and all administrative rules adopted pursuant thereto. Montana law requires that all public works contracts, as defined in section 18-2-401, MCA, in which the total cost of the contract is in excess of $25,000, contain a provision stating for each job classification the standard prevailing wage rate, including fringe benefits, travel, per diem, and zone pay that the contractors, subcontractors, and employers shall pay during the public works contract.

Furthermore, section 18-2-406, MCA, requires that all contractors, subcontractors, and employers who are performing work or providing services under a public works contract post in a prominent and accessible site on the project staging area or work area, no later than the first day of work and continuing for the entire duration of the contract, a legible statement of all wages and fringe benefits to be paid to the employees in compliance with section 18-2-423, MCA. Section 18-2-423, MCA, requires that employees receiving an hourly wage must be paid on a weekly basis.

Each contractor, subcontractor, and employer must maintain payroll records in a manner readily capable of being certified for submission under section 18-2-423, MCA, for not less than three years after the contractor's, subcontractor's, or employer's completion of work on the public works contract.

The nature of the work performed or services provided under this contract meets the statutory definition of a "public works contract" under section 18-2-401(11)(a), MCA, and falls under the category of Heavy Construction and Nonconstruction services. The booklets containing Montana's 2003 Rates for Heavy Construction and Nonconstruction Services are attached.

The most current Montana Prevailing Wage Booklet will automatically be incorporated at time of renewal. It is the contractor's responsibility to ensure they are using the most current prevailing wages during performance of its covered work.

17. ACCESS AND RETENTION OF RECORDS

17.1 Access to Records. The Contractor agrees to provide the State, Legislative Auditor or their authorized agents access to any records necessary to determine contract compliance. (Mont. Code Ann. § 18-1-118.)

17.2 Retention Period. The Contractor agrees to create and retain records supporting the environmental services for a period of three years after either the completion date of this contract or the conclusion of any claim, litigation or exception relating to this contract taken by the State of Montana or a third party.

18. ASSIGNMENT, TRANSFER AND SUBCONTRACTING

The Contractor shall not assign, transfer or subcontract any portion of this contract without the express written consent of the State. (Mont. Code Ann. § 18-4-141.) The Contractor shall be responsible to the State for the acts and omissions of all subcontractors or agents and of persons directly or indirectly employed by such subcontractors, and for the acts and omissions of persons employed directly by the Contractor. No contractual relationships exist between any subcontractor and the State.

19. HOLD HARMLESS/INDEMNIFICATION

The Contractor agrees to protect, defend, and save the State, its elected and appointed officials, agents, and employees, while acting within the scope of their duties as such, harmless from and against all claims, demands, causes of action of any kind or character, including the cost of defense thereof, arising in favor of the Contractor's employees or third parties on account of bodily or personal injuries, death, or damage to property arising out of services performed or omissions of services or in any way resulting from the acts or omissions of

the Contractor and/or its agents, employees, representatives, assigns, subcontractors, except the sole negligence of the State, under this agreement.

20. REQUIRED INSURANCE

20.1 General Requirements. The Contractor shall maintain for the duration of the contract, at its cost and expense, insurance against claims for injuries to persons or damages to property, including contractual liability, which may arise from or in connection with the performance of the work by the Contractor, agents, employees, representatives, assigns, or subcontractors. This insurance shall cover such claims as may be caused by any negligent act or omission.

20.2 Primary Insurance. The Contractor's insurance coverage shall be primary insurance as respect to the State, its officers, officials, employees, and volunteers and shall apply separately to each project or location. Any insurance or self-insurance maintained by the State, its officers, officials, employees or volunteers shall be excess of the Contractor's insurance and shall not contribute with it.

20.3 Specific Requirements for Commercial General Liability. The Contractor shall purchase and maintain occurrence coverage with combined single limits for bodily injury, personal injury, and property damage of $1,000,000 per occurrence and $2,000,000 aggregate per year to cover such claims as may be caused by any act, omission, or negligence of the Contractor or its officers, agents, representatives, assigns or subcontractors.

20.4 Additional Insured Status. The State, its officers, officials, employees, and volunteers are to be covered and listed as additional insureds; for liability arising out of activities performed by or on behalf of the Contractor, including the insured's general supervision of the Contractor; products and completed operations; premises owned, leased, occupied, or used.

20.5 Specific Requirements for Automobile Liability. The Contractor shall purchase and maintain coverage with split limits of $500,000 per person (personal injury), $1,000,000 per accident occurrence (personal injury), and $100,000 per accident occurrence (property damage), OR combined single limits of $1,000,000 per occurrence to cover such claims as may be caused by any act, omission, or negligence of the contractor or its officers, agents, representatives, assigns or subcontractors.

20.6 Additional Insured Status. The State, its officers, officials, employees, and volunteers are to be covered and listed as additional insureds for automobiles leased, hired, or borrowed by the Contractor.

20.7 Specific Requirements for Professional Liability. The Contractor shall purchase and maintain occurrence coverage with combined single limits for each wrongful act of $1,000,000 per occurrence and $2,000,000 aggregate per year to cover such claims as may be caused by any act, omission, negligence of the Contractor or its officers, agents, representatives, assigns or subcontractors. Note: if "occurrence" coverage is unavailable or cost prohibitive, the Contractor may provide "claims made" coverage provided the following conditions are met: (1) the commencement date of the contract must not fall outside the effective date of insurance coverage and it will be the retroactive date for insurance coverage in future years; and (2) the claims made policy must have a three year tail for claims that are made (filed) after the cancellation or expiration date of the policy.

20.8 Deductibles and Self-Insured Retentions. Any deductible or self-insured retention must be declared to and approved by the state agency. At the request of the agency either: (1) the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects the State, its officers, officials, employees, or volunteers; or (2) at the expense of the Contractor, the Contractor shall procure a bond guaranteeing payment of losses and related investigations, claims administration, and defense expenses.

20.9 Certificate of Insurance/Endorsements. A certificate of insurance from an insurer with a Best's rating of no less than A- indicating compliance with the required coverages, has been received by the State Procurement Bureau, PO Box 200135, Helena MT 59620-0135. The Contractor must notify the State

immediately, of any material change in insurance coverage, such as changes in limits, coverages, change in status of policy, etc. The State reserves the right to require complete copies of insurance policies at all times.

21. COMPLIANCE WITH THE WORKERS' COMPENSATION ACT

Contractors are required to comply with the provisions of the Montana Workers' Compensation Act while performing work for the State of Montana in accordance with sections 39-71-120, 39-71-401, and 39-71-405, MCA. Proof of compliance must be in the form of workers' compensation insurance, an independent contractor's exemption, or documentation of corporate officer status. Neither the contractor nor its employees are employees of the State. This insurance/exemption must be valid for the entire term of the contract. A renewal document must be sent to the State Procurement Bureau, PO Box 200135, Helena MT 59620-0135, upon expiration.

22. COMPLIANCE WITH LAWS

The Contractor must, in performance of work under this contract, fully comply with all applicable federal, state, or local laws, rules and regulations, including the Montana Human Rights Act, the Civil Rights Act of 1964, the Age Discrimination Act of 1975, the Americans with Disabilities Act of 1990, and Section 504 of the Rehabilitation Act of 1973. Any subletting or subcontracting by the Contractor subjects subcontractors to the same provision. In accordance with section 49-3-207, MCA, the Contractor agrees that the hiring of persons to perform the contract will be made on the basis of merit and qualifications and there will be no discrimination based upon race, color, religion, creed, political ideas, sex, age, marital status, physical or mental disability, or national origin by the persons performing the contract.

23. INTELLECTUAL PROPERTY

All patent and other legal rights in or to inventions created in whole or in part under this contract must be available to the State for royalty-free and nonexclusive licensing. Both parties shall have a royalty-free, nonexclusive, and irrevocable right to reproduce, publish or otherwise use and authorize others to use, copyrightable property created under this contract.

24. PATENT AND COPYRIGHT PROTECTION

24.1 Third Party Claim. In the event of any claim by any third party against the State that the products furnished under this contract infringe upon or violate any patent or copyright, the State shall promptly notify Contractor. Contractor shall defend such claim, in the State's name or its own name, as appropriate, but at Contractor's expense. Contractor will indemnify the State against all costs, damages and attorney's fees that accrue as a result of such claim. If the State reasonably concludes that its interests are not being properly protected, or if principles of governmental or public law are involved, it may enter any action.

24.2 Product Subject of Claim. If any product furnished is likely to or does become the subject of a claim of infringement of a patent or copyright, then Contractor may, at its option, procure for the State the right to continue using the alleged infringing product, or modify the product so that it becomes non-infringing. If none of the above options can be accomplished, or if the use of such product by the State shall be prevented by injunction, the State will determine if the Contract has been breached.

25. CONTRACT TERMINATION

25.1 Termination for Cause. The State may, by written notice to the Contractor, terminate this contract in whole or in part at any time the Contractor fails to perform this contract.

25.2 Reduction of Funding. The State, at its sole discretion, may terminate or reduce the scope of this contract if available funding is reduced for any reason. (See Mont. Code Ann. § 18-4-313(3).)

26. STATE PERSONNEL

26.1 State Contract Manager. The State Contract Manager identified below is the State's single point of contact and will perform all contract management pursuant to section 2-17-512, MCA, on behalf of the State. Written notices, requests, complaints or any other issues regarding the contract should be directed to the State Contract Manager.

The State Contract Manager for this contract is:

Robert Oliver, Contracts Officer
Room 165 Mitchell Building
125 North Roberts
PO Box 200135
Helena MT 59620-0135
Telephone #: (406) 444-0110
Fax #: (406) 444-2529
E-mail: roliver@mt.gov

26.2 State Project Manager. Each using State agency or Cooperative Purchaser will identify a Project Manager in the project task order. The Project Manager will manage the day-to-day project activities on behalf of the State/Cooperative Purchaser.

27. CONTRACTOR PERSONNEL

27.1 Change Of Staffing. Since qualifications of personnel was key in determining which offerors were selected to be on this term contract list, a written notification to the State Procurement Bureau of any changes of key personnel must be made within two weeks of the change. These change notifications will be completed upon the departure or hiring of key personnel who are professional employees critical to awarded service areas. If these staffing changes cause the firm to no longer meet the qualifications stated herein, that firm will be removed from the service area of this term contract. Failure to notify the State Procurement Bureau of staffing changes could result in the contractor being removed from the term contract listing and possible suspension from bidding on other State projects.

27.2 Contractor Contract Manager. The Contractor Contract Manager identified below will be the single point of contact to the State Contract Manager and will assume responsibility for the coordination of all contract issues under this contract. The Contractor Contract Manager will meet with the State Contract Manager and/or others necessary to resolve any conflicts, disagreements, or other contract issues.

The Contractor Contract Manager for this contract is:

Thomas G Parker
307 State St
PO Box 1956
Hamilton MT 59840
Telephone #: (406) 363-2353
Fax #: (406) 363-3015
E-mail: tparker@geumconsulting.com

27.3 Contractor Project Manager. The Contractor Project Manager identified below will manage the day-to-day project activities on behalf of the Contractor:

The Contractor Project Manager for this contract is:

Thomas G Parker
307 State St
PO Box 1956

Hamilton MT 59840
Telephone #: (406) 363-2353
Fax #: (406) 363-3015
E-mail: tparker@geumconsulting.com

28. MEETINGS

The Contractor is required to meet with the State's personnel, or designated representatives, to resolve technical or contractual problems that may occur during the term of the contract or to discuss the progress made by Contractor and the State in the performance of their respective obligations, at no additional cost to the State. Meetings will occur as problems arise and will be coordinated by the State. The Contractor will be given a minimum of three full working days notice of meeting date, time, and location. Face-to-face meetings are desired. However, at the Contractor's option and expense, a conference call meeting may be substituted. Consistent failure to participate in problem resolution meetings two consecutive missed or rescheduled meetings, or to make a good faith effort to resolve problems, may result in termination of the contract.

29. CONTRACTOR PERFORMANCE ASSESSMENTS

The State may do assessments of the Contractor's performance. This contract may be terminated for one or more poor performance assessments. Contractors will have the opportunity to respond to poor performance assessments. The State will make any final decision to terminate this contract based on the assessment and any related information, the Contractor's response and the severity of any negative performance assessment. The Contractor will be notified with a justification of contract termination. Performance assessments may be considered in future solicitations.

30. TRANSITION ASSISTANCE

If this contract is not renewed at the end of this term, or is terminated prior to the completion of a project, or if the work on a project is terminated, for any reason, the Contractor must provide for a reasonable period of time after the expiration or termination of this project or contract, all reasonable transition assistance requested by the State, to allow for the expired or terminated portion of the services to continue without interruption or adverse effect, and to facilitate the orderly transfer of such services to the State or its designees. Such transition assistance will be deemed by the parties to be governed by the terms and conditions of this contract, except for those terms or conditions that do not reasonably apply to such transition assistance. The State shall pay the Contractor for any resources utilized in performing such transition assistance at the most current rates provided by the contract. If there are no established contract rates, then the rate shall be mutually agreed upon. If the State terminates a project or this contract for cause, then the State will be entitled to offset the cost of paying the Contractor for the additional resources the Contractor utilized in providing transition assistance with any damages the State may have otherwise accrued as a result of said termination.

31. CHOICE OF LAW AND VENUE

This contract is governed by the laws of Montana. The parties agree that any litigation concerning this bid, proposal or subsequent contract must be brought in the First Judicial District in and for the County of Lewis and Clark, State of Montana and each party shall pay its own costs and attorney fees. (See Mont. Code Ann. § 18-1-401.)

31. SCOPE, AMENDMENT AND INTERPRETATION

32.1 Contract. This contract consists of 11 numbered pages, any Attachments as required, RFP # SPB05-894P**,** as amended and the Contractor's RFP response as amended. In the case of dispute or ambiguity about the minimum levels of performance by the Contractor the order of precedence of document interpretation is in the same order.

32.2 Entire Agreement. These documents contain the entire agreement of the parties. Any enlargement, alteration or modification requires a written amendment signed by both parties.

33. EXECUTION

The parties through their authorized agents have executed this contract on the dates set out below.

DEPARTMENT OF ADMINISTRATION
STATE PROCUREMENT BUREAU
PO BOX 200135
HELENA MT 59620-0135

BY:_____
Penny Moon, Contracts Officer

BY:_____
(Signature)

DATE:_____

GEUM ENVIRONMENTAL CONSULTING, INC.
307 STATE ST., PO BOX 1956
HAMILTON MT 59840
FEDERAL ID # 35-2219846

BY:_____
(Name/Title)

BY:_____
(Signature)

DATE:_____

ATTACHMENT A
CONTRACTOR'S RESPONSE

SECTION 3: SCOPE OF PROJECT

Geum Environmental Consulting, Inc. understands the requirements in Section 3 and will comply.

3.1 ENGINEERING ACCESS

Geum Environmental Consulting, Inc. acknowledges the need for engineers may exist on certain projects. Geum has good working relationships with several engineering contractors. We have provided a resume for the principal engineer of one of these firms, River Design Group, Inc., with whom we are currently working closely. This resume is provided in Appendix F of this response. Geum would also be able to accommodate the need for engineering services by subcontracting with other firms or through a request to the contracting agency to supply the engineer.

SECTION 4: OFFEROR QUALIFICATIONS

4.0 STATE'S RIGHT TO INVESTIGATE AND REJECT

Geum Environmental Consulting, Inc. understands the requirements in Section 4.0 and will comply.

4.1 OFFEROR INFORMATIONAL REQUIREMENTS – All Service Categories

4.1.1 References.

References specific to each service category are provided in the response for each service category we are applying for in Section 4.2.

4.1.2 Company Profile and Experience.

Geum Environmental Consulting, Inc. started doing business in November of 2003. Personnel with Geum Environmental Consulting, Inc. have over 20 years of combined experience in the natural resources field, primarily within the state of Montana. Our office is located in Hamilton, Montana.

Geum staff have previously worked for several other firms and organizations, including nonprofit conservation organizations, the University of Montana, Bureau of Land Management, United States Forest Service, Herrera Environmental Consulting and Bitterroot Restoration, Inc. We have direct experience working in the non-profit, public and private sectors.

Although Geum is a young company, we have already developed a stable workload. This is because staff have previously developed long-standing relationships with a variety of client types. Client types include federal agencies, state agencies, local watershed groups and other conservation groups, Tribal organizations, private industry and other consulting firms.

We are committed to remaining small and therefore maintaining a low overhead rate. However, we are also committed to continuing to manage large projects by utilizing our teaming network of other independent consultants. Our preferred approach is to work as part of a team that includes client staff, stakeholder representatives and other technical staff as necessary.

Geum's professional services include:

- Ecological restoration planning;
- wetlands delineation, assessment, and permitting;
- riparian and stream restoration;

- erosion and sediment control, and soil bioengineering;
- feasibility analysis for wetland creation, restoration, and enhancement;
- grant writing for natural resources projects;
- fish habitat inventory and assessment;
- biological assessment preparation for Endangered Species Act compliance;
- noxious weed management; and
- revegetation planning.

Additional company experience specific to service categories we are applying for is provided in Section 4.2.

4.1.3 Method of Providing Services & Quality Assurance.

Methods of providing services and quality assurance specific to each service category is provided in the response for each service category we are applying for Section 4.2.

4.1.4 Staff Qualifications.

A table summarizing personnel qualifications, resumes for staff members, and identification of project managers and lead technical staff specific to each service category are provided in the response for each service category we are applying in Section 4.2.

4.2 OFFEROR QUALIFICATION REQUIREMENTS – Specific Service Categories

Geum Environmental Consulting, Inc. is applying for the following service categories:

- Geographic Information Systems (GIS) Services
- Revegetation Services
- Preparation of Technical Manuals or Circulars .

4.2.1 Water Quality Monitoring-Fixed Station and Probabilistic Design.

Geum Environmental Consulting, Inc. is not applying for this service category.

4.2.2 Water Quality Monitoring-Lakes and Streams.

Geum Environmental Consulting, Inc. is not applying for this service category.

4.2.3 Water Quality Monitoring-Reference Sites.

Geum Environmental Consulting, Inc. is not applying for this service category.

4.2.4 TMDL Targets.

Geum Environmental Consulting, Inc. is not applying for this service category.

4.2.5 TMDL Source Assessment/Delineation.

Geum Environmental Consulting, Inc. is not applying for this service category.

4.2.6 TMDL Load Allocations

Geum Environmental Consulting, Inc. is not applying for this service category.

4.2.7 Total Maximum Daily Loads.

Geum Environmental Consulting, Inc. is not applying for this service category.

4.2.8 Stakeholder Participation.

Geum Environmental Consulting, Inc. is not applying for this service category.

4.2.9 TMDL Effectiveness Monitoring.

Geum Environmental Consulting, Inc. is not applying for this service category.

4.2.10 Geographic Information Systems (GIS) Services

Geum Environmental Consulting, Inc. is applying for competition in this service category.

References.

Geum Environmental Consulting, Inc. has not had a contract with a client solely for GIS services, however, the following references have received GIS products created by Geum. Dates represent the duration of relationships between individual staff members and the client—not between Geum and the client.

Plum Creek Timber Company
P.O. Box 1990
Columbia Falls, Montana 59912
Point of Contact: Brian Sugden
(406) 892-6368
Dates of Service: July 1998 to December 2003
Location of Services Provided: Western Montana and the Thompson River, west of Kalispell, Montana.
GIS Services Provided: Creation of GIS layers to support restoration planning and GIS analysis to determine treatment areas.

Confederated Salish and Kootenai Tribes
P.O. Box 278
Pablo, Montana 59855
Point of Contact: Les Evarts
(406) 883-2888 ext. 7240
Dates of Service: Fall 2002 to Present
Location of Services Provided: Jocko River in the Flathead Indian Reservation of the Confederated Salish and Kootenai Tribes.
GIS Services Provided: Creation of GIS layers and suitability analysis to support restoration planning and GIS analysis for watershed-scale restoration planning efforts.

Confederated Salish and Kootenai Tribes
P.O. Box 278
Pablo, Montana 59855
Point of Contact: Mary Price
(406) 883-2888 ext. 7242
Dates of Service: Fall 2002 to Present
Location of Services Provided: Finley Flats Wetland Mitigation Sites in the Flathead Indian Reservation of the Confederated Salish and Kootanai Tribes.
GIS Services Provided: Creation of GIS layers for wetland boundaries and analysis of wetland mitigation crediting potential.

Tri State Water Quality Council
4660 Spurgin Rd.
Missoula, MT 59804
Point of Contact: Will McDowell
(406) 327-8443
Dates of Service: March 2004 to Present
Location of Services Provided: Threemile Creek in the Bitterroot Valley in Western Montana.
GIS Services Provided: Creation of GIS layers to support stream restoration design concepts.

Bitter Root Land Trust
120 South Fifth Street
Hamilton, Montana 59840
Point of Contact: Kristine Komar
(406) 375-9953
Dates of Service: October 2003 to Present
Location of Volunteer Service Provided: The Bitterroot Valley in Western Montana.
GIS Services Provided: Development of GIS layers to prepare information to assess conservation planning options.

Company Profile and Experience.

Geum Environmental Consulting (Geum) was founded in 2003 in Hamilton, Montana by ecologists and biologists interested in working with the local community to benefit the environment and natural resources. Key employees with Geum have over 20 years combined professional experience working in natural resource disciplines in Montana and the western United States. We offer high quality, locally based professional service. Geum Environmental Consulting, Inc. consists of three natural resource professionals. Tom Parker is the principal ecologist specializing in ecological restoration design and information technology as it applies to natural resources. Amy Sacry is a fisheries biologist specializing in Montana fisheries habitat, fish surveys, wetland delineations, and wetland functional assessments. Sarah Flynn is a botanist/ecologist specializing in vegetation surveys and assessments, wetland delineation, and wetland functional assessment.

Geum Environmental Consulting, Inc. specializes in large-scale, collaborative restoration planning for large watershed areas that involve diverse stakeholders and regulatory entities. Nearly every project we have worked on has involved a GIS component. All Geum personnel are skilled in the use of GIS for spatial analysis and data management. We own licenses for, and regularly use, the following GIS software:

- ArcView 9.0
- ArcView 8.1 with Spatial Analyst, 3D Analyst, Geostatistical Analyst.

Specific GIS products created by Geum Environmental Consulting, Inc. developed to support restoration and planning projects include:

- ***Jocko River Floodplain Restoration Suitability Analysis***

GIS was used to complete the landscape portion of a Riverine HGM assessment, to manage spatial data used to assess historic and existing conditions, and to perform a suitability analysis of restoration potential.

- ***Threemile Creek Restoration Plan***

GIS was used to calculate some stream channel morphology parameters and as a base for presenting restoration options and quantifying costs.

- ***Thompson River Restoration Plan***

GIS was used as a basis for calculating restoration areas for permitting, to develop presentation materials for a Future Fisheries grant application, to manage project spatial data, and develop a site plan for use during construction.

- ***Finley Flats Wetland Map and Restoration Concept***

  GIS was used as a master project-planning tool, incorporating wetland-crediting algorithms to determine available wetland credits, to prepare spatially accurate maps for presenting project plans, and to manage several different biological resources data layers.

In addition to our experience using ESRI GIS products, we regularly use the following additional software and programming languages. These skills are useful for developing and serving sophisticated spatial applications for use over the Internet:

- Microsoft Office Professional product suite
- MS SQL Server 2000
- JavaScript
- Lasso Professional v. 7.04 (a middleware software for developing SQL-compatible data-driven web applications)

Method of Providing Services & Quality Assurance.

While working as part of a multi-firm interdisciplary team on a large-scale watershed restoration-planning project for the Confederated Salish and Kootenai Tribes, Geum staff developed a GIS-based suitability analysis for ranking restoration potential along the floodplain. Data sources were obtained from the client's GIS department who had conducted quality assurance on the spatial accuracy of all data layers used for the analysis. Data sources included historical aerial photographs, HGM cover type boundaries (field verified by Geum staff), and soil survey data published by the NRCS. Suitability classes were refined during two different meetings of the interdisciplinary team, and the classes will be used as one of several tools to guide development of restoration priorities in the floodplain.

This project provides a good example of how quality assurance can be a shared responsibility between the client and the consultant. Further information about how Geum manages a multi-task work plan is presented within the revegetation services section.

Staff Qualifications.

Geum Personnel	Degree	Years of Professional Experience	Years of Experience on Similar Projects	Specialty Training Applicable to the Service Area	Professional Registrations*	Professional Rate
Tom Parker	MS Resource Conservation BA Forestry	15	15	Two Graduate level GIS courses	SWS	$65.00/hour
Amy Sacry	MS Resource Conservation BS Biology	5	5	One Graduate level GIS course	AFS SWS	$50.00/hour
Sarah Flynn	BA Biology	2	2	No formal training	SWS SER	$45.00/hour

*SWS – Society of Wetland Scientists
AFS – American Fisheries Society

Tom Parker
Principal Ecologist

Education:

Masters of Science, Resource Conservation (1996) University of Montana
Bachelor of Science, Forestry (1988) University of Montana

Tom Parker has been using ESRI GIS products for ten years. During graduate school, he completed a year of GIS courses taught by Hans Zuuring at the University of Montana's School of Forestry. He uses GIS to store project data on most of the restoration projects he manages. He has used the Spatial Analyst extension to develop suitability analyses for restoration of a 7,000-acre mining-impacted mountain range, and for restoration of a 22-mile floodplain, both in western Montana. Tom has experience writing SQL statements, understands data normalization principals, and has written programs, scripts and macros in several programming languages. Through his work developing commercial web applications, he has developed relationships with individuals and companies with a variety of skills, including C#, PHP, .net, SOAP, Lasso, SSL, and network security. He is a proficient HTML, SQL, Lasso, and JavaScript programmer.

Tom will serve as the project manager for projects that may result from a contract under this service category.

Amy Sacry
Biologist

Education:

Masters of Science, Resource Conservation (2004) University of Montana; Missoula, Montana
Bachelor of Science, Biology (1998) Graceland University; Lamoni, Iowa

Amy Sacry has experience with GIS software for mapping and data storage. As a Bureau of Land Management employee, she used GIS software to create databases of fish species distribution based on results of field data collection. She used the databases created to map fish distribution and habitat, determine lengths of stream occupied by sensitive fish species, and determine watershed characteristics of streams occupied by sensitive fish. These databases and maps were developed for use in land management planning. In addition, Amy has used GIS software to create custom maps for wetland restoration, wetland delineation and stream restoration projects. Thematic layers used for creation of these maps included; land ownership, land use, topography, hydrography, soils, data collection points, habitat, and proposed treatment areas.

Amy Sacry will serve as lead technical staff for this service category.

Sarah Flynn
Ecologist/Botanist/GIS Specialist

Education:
Bachelor of Arts, Biology with an Emphasis in Botanical Sciences (2001) University of Montana; Missoula, Montana

Sarah Flynn has developed a GIS-based suitability analysis to assist with watershed restoration activities along the Jocko River. Digital GIS layers including, georeferenced current and historical aerial photographs, current and historic vegetation cover types, soils, and topography were used to determine the best opportunities for restoration. Sarah also has experience developing GIS-based project maps showing land ownership with various natural resources features including wetlands, well locations, streams, and other water features. She has developed GIS-based maps for stream restoration projects incorporating GPS data and available GIS data to determine the current and historic condition of the project area to assist with restoration planning activities.

Sarah Flynn will serve as lead technical staff for this service category.

4.2.11 Remote Sensing.

Geum Environmental Consulting, Inc. is not applying for this service category.

4.2.12 Water Quality Modeling.

Geum Environmental Consulting, Inc. is not applying for this service category.

4.2.13 Statistical Analysis.

Geum Environmental Consulting, Inc. is not applying for this service category.

4.2.14 Analytical Laboratory Services.

Geum Environmental Consulting, Inc. is not applying for this service category.

4.2.15 DEQ Electronic Data/Information Technical Assistance.

Geum Environmental Consulting, Inc. is not applying for this service category.

4.2.16 Heavy Equipment Operators.

Geum Environmental Consulting, Inc. is not applying for this service category.

4.2.17 Revegetation Services.

Geum Environmental Consulting, Inc. is applying for competition in this service category.

References.

Plum Creek Timber Company
P.O. Box 1990
Columbia Falls, Montana 59912
Point of Contact: Brian Sugden
(406) 892-6368
Dates of Service: July 1998 to December 2003
Location of Services Provided: Western Montana and the Thompson River, west of Kalispell, Montana.
Services Provided: Helped develop riparian grazing assessment protocols, restoration planning, project implementation, and post-project monitoring for a stream rehabilitation project to comply with the Native Fish Habitat Conservation Plan for the Thompson River.

Confederated Salish and Kootenai Tribes
P.O. Box 278
Pablo, Montana 59855
Point of Contact – Les Evarts
(406) 883-2888 ext. 7240
Dates of Service: Fall 2002 to Present
Location of Services Provided: Jocko River in the Flathead Indian Reservation of the Confederated Salish and Kootenai Tribes.
Services Provided: Environmental Documentation to develop a master plan for the Jocko River on the Flathead Indian Reservation. Riparian and wetland functional assessments along the Jocko River. Development of wetland mitigation sites

Bitter Root Land Trust
120 South Fifth Street
Hamilton, Montana 59840
Point of Contact: Kristine Komar
(406) 375-9953
Dates of Service: October 2003 to Present
Location of Service Provided: The Bitterroot Valley in Western Montana.
Services Provided: Development of a riparian revegetation plan for a conservation easement property, Future Fisheries Grant application development, and project implementation oversight.

Tri State Water Quality
4660 Spurgin Rd.
Missoula, MT 59804
Point of Contact: Will McDowell
(406) 327-8443
Dates of Service: April 2004 to Present
Location of Services Provided: Threemile Creek in the Bitterroot Valley in Western Montana.
Services Provided: Stream restoration planning for two reaches of Threemile Creek, including riparian revegetation planning and recommendations for grazing management.

Montana Department of Fish, Wildlife and Parks
3201 Spurgin Road
Missoula, MT 59804
Point of Contact: Chris Clancy
(406) 542-5500
Dates of Service: 2001 to Present
Location of Services Provided: Bitterroot River and Clark Fork River
Services Provided: Development of riparian revegetation brochure.

Company Profile and Experience.

Geum Environmental Consulting (Geum) was founded in 2003 in Hamilton, Montana by ecologists and biologists interested in working with the local community to benefit the environment and natural resources. Key employees with Geum have over 20 years combined professional experience working in natural resource disciplines in Montana and the western United States. We offer high quality, locally based professional service. Geum Environmental Consulting, Inc. consists of three natural resource professionals. Tom Parker is the principal ecologist specializing in ecological restoration design and information technology as it applies to natural resources. Amy Sacry is a fisheries biologist specializing in Montana fisheries habitat, fish surveys, wetland delineations, and wetland functional assessments. Sarah Flynn is a botanist/ecologist specializing in vegetation surveys and assessments, wetland delineation, and wetland functional assessment.

Geum Environmental Consulting specializes in large-scale, collaborative restoration planning for large watershed areas that involve diverse stakeholders and regulatory entities. Staff have experience implementing all phases of stream and wetland restoration including site characterization, permitting, project design, construction and field crew oversight, and project monitoring. Our primary role as a revegetation specialist subcontractor will be in providing riparian and wetland revegetation expertise for restoration projects, such as the development of planting plans, construction specifications, and project oversight. In addition, Geum may provide technical and labor staff, in addition to those included in this statement of qualifications, on a project-by-project basis if needed.

Geum uses a revegetation planning thought process as follows:

- Understand the history of disturbance on a site and how disturbance has changed site potential
- Identify reference areas, with the understanding that disturbance may have resulted in changes to soils and hydrology that might mean a realistic revegetation objective is different from the historic vegetation.
- Evaluate and amend soil nutrients, organic matter and texture as necessary and feasible.
- Include erosion control measures to ensure soil remains in place while vegetation becomes established.
- Use local seed sources to increase the probability that genetic stock will be appropriate for the site, resulting in appropriate phenology.
- Consider ecological niches in the context of minimizing competition for resources—for example, forbs utilize site resources at different times, and may occupy different rooting zones, than grasses. Considering plant synecology can inform a seeding plan.
- Use natives where possible (exceptions may be necessary on sites severely impacted by soil toxicity).
- Consider project objectives and cost constraints when developing a revegetation plan.

- Investing in maintenance, including herbivory protection, competition control, and maintenance watering can be more cost-effective than replanting.
- Plants should be incorporated into stream bank stabilization where possible where sustainable, deformable banks are consistent with project objectives and geomorphology.

Selected relevant projects in progress or completed by Geum follow.

Geum Selected Projects:

Riparian Revegetation and Stream Restoration, Threemile Creek, Stevensville, Montana, Tri-State Water Quality Council. Geum is designing restoration strategies for portions of Threemile Creek in cooperation with the Threemile Watershed Group and landowners along the creek. The project will help reduce sediment problems in the watershed and improve fish habitat. The designs will include: restoring appropriate stream dimensions, channel sinuosity, and improving bank stability and floodplain vegetation. One reach of the project is located in a riparian pasture, and measures will be designed to minimize grazing impacts to the area, including hardened water breaks for livestock and off-channel water sources.

Willow Creek Riparian Restoration Plan, Corvallis, Montana. At the request of the Bitter Root Land Trust, Geum developed a riparian restoration plan for a ½ mile reach of Willow Creek southeast of Corvallis, Montana. The plan, developed to support a successful Future Fisheries Program grant application, includes riparian revegetation using willow seedlings and cuttings, construction of a riparian enclosure fence and development of grazing management prescriptions for adjacent upland buffer areas. The project, to be completed during fall 2004, is on a conservation easement property and will be completed with the assistance of community volunteers. Geum successfully assisted the Bitter Root Land Trust in securing a Future Fisheries grant for riparian restoration on the easement property. Geum will provide oversight during project implementation.

Thompson River Riparian Restoration Final Report, Montana. Plum Creek Timber Company. Geum completed a final report for a restoration project completed by Geum staff in their roles prior to forming Geum. The report described a riparian restoration project associated with bull trout habitat restoration for Plum Creek Timber Company in support of their Native Fish Habitat Conservation Plan commitments. This project, supported in part by Montana's Future Fisheries Program, is aimed at restoring native riparian forest and shrub communities to a floodplain currently dominated by reed canarygrass, an invasive grass that replaces native species and results in poor fish and wildlife habitat. The project design combines cardboard and wood chips to suppress canarygrass, modify the soil nutrient budget, and promote native shrub establishment.

Jocko River Riparian Restoration Planning, Montana, Confederated Salish and Kootenai Tribes. Geum is assisting the Confederated Salish and Kootenai Tribes of the Flathead Indian Reservation as they work to restore Bull Trout habitat and wetland and riparian resources along the Jocko River. We have conducted HGM Riverine assessments for areas along the river and we are designing revegetation plans for riparian areas that will be restored as part of the project.

Finley Creek Mitigation Site Design, Montana. Confederated Salish and Kootenai Tribes. Geum is developing a final design and construction plans for a wetland mitigation reserve near Arlee, Montana. The project includes conducting HGM riverine functional assessments, GIS, suitability analysis for restoration planning, site surveying, restoration of hydrology, restoration of instream fish habitat, re-naturalizing of streams where flows had been diverted for irrigation, and stream bank and floodplain revegetation.

Resumes detailing specific revegetation projects key personnel have contributed to are provided under *Staff Qualifications*.

Method of Providing Services & Quality Assurance.

The Threemile Creek project is an example of a project with a limited budget that requires empirically driven design, peer review by technical experts on the team, and input from landowners and watershed group members. The following task schedule illustrates how we are breaking the project into logical steps with

completion dates that will ensure a quality product is delivered on time and with necessary input from all project participants.

Because this project is happening concurrently with other projects, we assigned one project manager from our staff who is responsible for keeping the project team on schedule. For this project, we added a geomorphology subconsultant to the team whose role was to participate in initial site visits, field check our data collection plan to ensure all necessary data was collected, and to provide an independent review of our design. We notified landowners each time we were in the field to collect data. This gave us several opportunities to discuss our ideas with landowners and ensure that our design will meet their objectives. Field data reduction and designs are reviewed by the project manager and by the principal.

In general, we understand the need to work closely with our clients to develop a detailed, written scope of work that defines project timelines, methods that will be used., and specific products that will be delivered. On this particular project, we prepared a detailed breakdown of time each consultant would spend on the project to assure the client that the appropriate experts would each spend sufficient time working on the project. The following work plan was developed in concert with the client and is attached to the contract as our scope of work. It is important to note that this scope of work includes information about which tasks will be completed under the contract, but also defines tasks that are outside the scope of the contract.

Task One, Existing Data Review. April 1 to April 15. Assemble and review existing data, including results of R1-R4 stream assessments, stream flow data, aerial photographs, GIS layers, topographic maps and other information that may be available. Identify particular areas of interest for an initial field review.

T**ask Two, Field Reviews.** April 15 to May 15. Conduct an initial field review to identify specific riparian restoration opportunities and identify appropriate locations for measuring channel cross-sections and stream profile. Detailed data collection and channel measurements will be completed over one or two days for both Reaches BV16-SCH and BV1-7. Areas in Reach BV1-7 requiring detailed geomorphic studies will be identified during this part of the field review.

Task Three. Conceptual Design for Reach BV16-SCH. May 1 to May 21. Detailed conceptual designs for Reach BV16-SCH will be prepared for distribution to landowners and the Tri-State Council representative. These will include plans, preliminary detail drawings and a brief narrative. In particular, the conceptual design will include assumptions about landowner participation in implementation of the designs, discussion of project sequencing and impacts on landowners, and an overview of necessary permits and environmental documentation that may be required prior to implementing the designs. Although the timeline for Reach BV1-7 is somewhat later, some design work for Reach BV1-7 will be completed during this time.

Task Four. Meet with landowners and Tri-State Council. May 24.

Task Five. Develop the final design and accompanying report for Reach BV16-SCH. By June 30. The final design package will include revised information from the Conceptual Design, in addition to cost estimates, recommendations for future funding sources (Future Fisheries may be a good potential source), material sources, a list of qualified local contractors, and both hard copy and electronic versions of plans, detail drawings, maps and GIS layers developed during the planning process. Design work for Reach BV1-7 will continue during this time.

Task Six. Deliver Conceptual Design for Reach BV1-7 and meet with landowners and Tri-State Council. By August 31. Some additional field review within Priority Sub-Reaches B-2, B-4 and B-7 may be conducted during this time. Information will be prepared in such a way that the landowners clearly understand and can respond to assumptions about their involvement and impacts to them that would result from the project.

Task Seven. Develop and deliver final design for Reach BV1-7. By September 30. Final design will include cost estimates, material sources, a list of qualified local contractors, plan views, detail drawings, maps and GIS layers developed during the planning process.

The level of detail provided in designs for both reaches will correspond to the budget cap available for the design portion of the project. Designs will be specific as to location and treatment and will be based primarily upon channel cross-section data. However, given the budget cap, detailed engineering drawings and elevations for each site will not be prepared. Instead, for each location, a treatment will be proposed along with templates for construction. Cost estimates presented as part of this design will include line items for additional survey and site-specific design work that may be needed to support construction activities, particularly in cases where significant channel work or realignment may be necessary.

Staff Qualifications.

Geum Personnel	Degrees	Years of Professional Experience	Years of Experience on Similar Projects	Specialty Training	Professional Registrations*	Professional Rate
Tom Parker	MS Resource Conservation BA Forestry	15	15	Wetland Delineation; Fluvial Geomorphology	SWS	$65.00/hour
Amy Sacry	MS Resource Conservation BS Biology	5	5	Wetland Delineation; Soil Bioengineering I, II and III; Master Invasive Plant Management	AFS SWS	$50.00/hour
Sarah Flynn	BA Biology	2	2	Wetland Delineation; Master Invasive Plant Management	SWS	$45.00/hour

*SWS – Society of Wetland Scientists
AFS – American Fisheries Society

Tom Parker
Principal Ecologist

Tom specializes in environmental restoration planning and design with an emphasis on riparian and wetland areas. He conducts wetland delineations, wetland assessments and wetland permitting for Section 404 Clean Water Act. He frequently develops and reviews final designs for projects related to wetlands, erosion control and habitat restoration. As an environmental consultant in western Montana, Tom has managed Herrera Environmental Consultants' Missoula office, worked independently, and directed Bitterroot Restoration's consulting program. In 1997, he worked as Technical Director for Bestmann Green Systems, a manufacturer of soil bioengineering products used for wetland restoration in Salem, Massachusetts. Between 1995 and 1997, upon completion of his Master's degree, Tom worked as a Research Specialist at the University of Montana's Riparian and Wetland Research Program (RWRP). During this time, Tom completed environmental assessments in riparian areas and designed stream bank stabilization treatments for the Clark Fork River in western Montana. In 1988-1989, as a Peace Corps volunteer, he implemented arid land revegetation techniques in Niger, West Africa.

Tom will serve as the project manager for projects that may result from a contract under this service category.

Education:

Masters of Science, Resource Conservation (1996) University of Montana
Bachelor of Science, Forestry (1988) University of Montana

Selected Projects:

Riparian Restoration Planning, Jocko River, Montana, Confederated Salish and Kootenai Tribes. Current. Tom is assisting the Confederated Salish and Kootenai Tribes in their efforts to restore the Jocko River in western Montana. Tasks include: assessment of wetlands and plant communities for the watershed complex; riverine functional assessments; and participating in general watershed restoration planning activities.

Thompson River Riparian Restoration. 2003. Tom designed and implemented a riparian restoration project associated with bull trout habitat restoration for Plum Creek Timber Company in support of their Native Fish Habitat Conservation Plan commitments. This project, supported in part by Montana's Future Fisheries Program, is aimed at restoring native riparian forest and shrub communities to a floodplain currently dominated by reed canarygrass, an invasive grass that results in poor fish and wildlife habitat. The project design combines cardboard and wood chips to suppress canarygrass, modify the soil nutrient budget, and promote native shrub establishment.

Rosebud Creek Restoration. 2000-2001. Tom served as project manager for an emergency wetlands mitigation and stream bank restoration project, in response to an Environmental Protection Agency enforcement action, along Rosebud Creek in eastern Montana. Recent road construction disturbed a portion of the perennial stream, requiring emergency assessment, planning and wetlands mitigation work. He worked closely with the COE, Montana Department of Transportation, and the Environmental Protection Agency in the permitting, planning and implementation phases of the project.

Painted Rocks Highway Revegetation Plan, Bitterroot National Forest, Montana. 2001. Tom developed a revegetation plan for the second phase of a highway construction project along Painted Rocks Lake in southwestern Montana for the Bitterroot National Forest, West Fork Ranger District. The plan was driven by the need to meet NPDES permit requirements for nonpoint source sediment control. Prescriptions, broken out according to slope steepness and soil quality, included erosion blankets, native containerized seedlings, native grass seed, soil amendments, bonded fiber matrix, maintenance watering and mycorrhizal inoculation of the site.

Bitterroot National Forest, McClain Creek Landslide Revegetation Plan, Montana. 2000-2001. Working with U.S. Forest Service personnel, Tom developed a revegetation plan aimed at integrating ecological restoration approaches with an existing geotechnical engineering plan for a landslide in the Bitterroot Mountains of western Montana. He classified the landslide into functional zones based on surface erosion processes and developed prescriptions that included native alders, willows, conifer, forb and graminoid species. Erosion control techniques included permanent non-degradable erosion fabric, slash windrows, contour wattles and porous gully check dams.

MCAS Mirimar coastal California gnatcatcher mitigation/coastal sage scrub restoration. 2000. As part of a five-year contract with the Department of Defense, Tom (as a Bitterroot Restoration employee) developed a detailed ecological restoration prescription addressing restoration of 90 acres of coastal sage scrub habitat. The plan addresses control of undesirable weeds, immobilization of excess nitrogen, native seed collection, propagation of native plant species, field implementation, irrigation, and maintenance and monitoring.

Yosemite National Park, Merced River, Cascades Dam Removal Revegetation Plan. 1999. The National Park Service proposed to remove a dam on the Merced River near Yosemite National Park. Tom (as a Bitterroot Restoration employee) developed the revegetation plan for the post-dam removal stream bank zones. Using a laser level, he surveyed the elevational range of flood plain plant species relative to stream bank features and developed an appropriate planting mix based on the results. In addition, he developed a monitoring plan for the site based on standard Army Corps of Engineers mitigation wetland requirements.

Absaloka Mine, Hardin, Montana, Revegetation and Erosion Control Plan for Earth Dam Embankment. 1999. Working with mine reclamation personnel, Tom (as a Bitterroot Restoration

employee) developed a method for reconstructing a sediment pond dam face with the goal of upgrading the pond to a permanent structure. Using a long-term non-degradable geotextile, the entire face of the dam was reinforced as an alternative to upgrading an existing spillway. The plan also incorporated a native grass and forb seed mix and native shrub plantings. Hydraulic modeling results, from HydroCad, demonstrated the structure's ability to withstand a 100-year flood event.

Amy Sacry
Biologist

Amy Sacry specializes in Montana fisheries habitat and has a broad range of field experience in western Montana. She has helped design, implement, and monitor fish habitat restoration and stream bank stabilization projects. She has conducted distribution and spawning surveys of bull trout and west slope cutthroat in the Blackfoot River and the upper Clark Fork River watersheds. She has contributed to the fisheries portion of NEPA documents and prepared biological assessments for ESA compliance. Amy has conducted wetland delineations and is familiar with riparian and wetland assessment methods developed by the Montana Riparian and Wetland Association and the Montana Department of Transportation.

Amy will serve as lead technical staff for this service category.

Education:

Masters of Science, Resource Conservation (2004) University of Montana; Missoula, Montana
Bachelor of Science, Biology (1998) Graceland University; Lamoni, Iowa

Selected Projects:

Stream Restoration Design, Threemile Creek, Stevensville, Montana, Tri-State Water Quality Council. Current. Amy is assisting the Tri-State Water Quality Council and local landowners along Threemile Creek in Ravalli County, Montana to restore two reaches of the creek. Stream restoration will consist of stream relocation in some areas, bank treatments, and in-stream structures. The banks and floodplain of the creek will be revegetated with native vegetation. Amy is coordinating restoration design including; collecting and analyzing data, and designing instream habitat structures and bank stabilization techniques using soil bioengineering methods.

Blackfoot River Riparian Restoration, Bureau of Land Management. 2001-2002. While an employee for the Missoula Field Office Bureau of Land Management, Amy led field crews in planting riparian shrubs along streams in the Blackfoot River watershed. Riparian planting projects included selection of planting sites, collection and ordering of native plant material and instruction on planting techniques.

Blackfoot River Stream bank Stabilization Project, Bureau of Land Management. 2002. Amy was a member of a team that designed, implemented, and monitored a stream bank bioengineering project on the Blackfoot River, within the Blackfoot River Recreation Corridor. The project incorporated coir logs, hedge-layering, brush-matting and riparian revegetation techniques to stabilize a newly develop recreation site.

Land Management Activity Assessments, Bureau of Land Management. 2001-2002. Amy provided fisheries technical input to forestry and prescribed fire specialists to ensure compliance with the Endangered Species Act for the protection of bull trout and compliance with the Federal Inland Native Fish Strategy for protection of bull trout and west slope cutthroat trout. She evaluated ongoing projects and proposed projects for regulatory compliance in western Montana. She performed data collection and analysis for the fisheries portions of NEPA documents related to proposed timber harvest, prescribed fire, placer mining, road maintenance, and recreation for the Missoula Field Office of the Bureau of Land Management. Amy conducted proper functioning condition stream assessments and non-point source sediment surveys to evaluate riparian conditions in livestock grazing allotments in western Montana and assess the effects of range management on native fish habitat.

Sarah Flynn
Ecologist/Botanist

Sarah Flynn is an ecologist with expertise in botany. She has experience with noxious weed research, and wetlands. Sarah has developed revegetation plans for riparian and wetland sites in western Montana. Through the University of Montana, Sarah has assisted with proposal development, research site selection, literature reviews, and has acted a field crew leader. She has field experience in plant identification and sampling in montane grasslands, wetlands, and riparian areas of Western Montana. Sarah has wetland experience assisting with site analysis, conducting functional analyses, and delineating wetland boundaries for wetlands in western Montana.

Sarah will serve as lead technical staff for this service category.

Education:
Bachelor of Arts, Biology with an Emphasis in Botanical Sciences (2001) University of Montana; Missoula, Montana

Selected Projects:

Riparian Revegetation and Stream Restoration, Threemile Creek, Stevensville, Montana, Tri-State Water Council. Current. Geum Environmental Consulting is assisting the Tri-State Water Council and local landowners along Threemile Creek in Ravalli County Montana to restore two reaches of the creek. Stream restoration will consist of stream restoring channel sinuosity, bank stabilization, and in-stream habitat structures. The banks and floodplain of the creek will be revegetated with native vegetation. Sarah is assisting with development of the planting plan for the banks and floodplain of the creek.

Willow Creek Revegetation, Corvallis, Montana, Bitter Root Land Trust. Current. Geum Environmental Consulting is assisting the Bitter Root Land Trust and the local landowner to design and implement a revegetation project along Willow Creek. The project consists of installing a riparian grazing exclosure, planting willows and other shrubs along the creek, and building a hardened livestock crossing. Sarah is developing a weed management plan for the property and assisting with revegetation planning along the creek and in an adjacent upland area. The upland area will be revegetated to match an adjacent sage brush scrub area that has been isolated from grazing impacts.

Riparian Restoration Planning, Jocko River, Montana, Confederated Salish and Kootenai Tribes. Current. Sarah is assisting the Confederated Salish and Kootenai Tribes in their efforts to restore the Jocko River in western Montana. Tasks include: assessment of wetlands and off-channel springs for the watershed complex; riverine functional assessments; GIS analysis of the project area; and participating in general watershed restoration planning activities.

Jocko River Restoration Project. 2003. Ms. Sarah led field crews conducting riverine hydrogeomorphic (HGM) assessments in riparian areas to establish the current wetland and riparian function, and evaluate the current vegetation community along the Jocko River. This baseline assessment will assist in setting priorities for restoration opportunities and developing site-specific restoration prescriptions, in addition to providing a basis for evaluating restoration program success.

Noxious Weed Research, University of Montana. 1999-2001. The University of Montana and The United States Forest Service Fire Science Lab in Missoula are researching the use of fire and herbicide in combinations for weed management in western Montana. Sarah assisted with writing a literature review for the grant proposal for the project. The literature review looked at referreed scientific literature and studies that used fire and/or herbicide for vegetation management. She also assisted in site selection, supervised a field crew, conducted field sampling, and assisted with data analysis.

Noxious Weed and Exotic Plant Watch List Training. 2001. Through the University of Montana, Sarah assisted with developing a training seminar for the identification of plants on the Montana

noxious weed list and other potentially invasive plant species in western Montana. She co-taught the training session that allowed certified herbicide applicators with the Unites States Forest Service and the Bureau of Land Management to gain credits to remain current on their certification.

Sawmill Creek Resource Natural Area Restoration Project. 1999-2001. The Sawmill Creek Resource Natural Area south of Missoula, Montana has been used to show the effectiveness of herbicide for noxious weed control and restoration of montane grasslands. Picloram, clopyralid, and 2,4-D were used to control spotted knapweed, leafy spurge, dalmation toadflax, and sulfur cinquefoil. She assisted with field sampling and plant identification to evaluate the effectiveness of herbicide application.

4.2.18 Watershed Coordination.

Geum Environmental Consulting, Inc. is not applying for this service category.

4.2.19 Communication/Educational Services-Information & Education.

Geum Environmental Consulting, Inc. is not applying for this service category.

4.2.20 Communication/Educational Services-Contract Administration.

Geum Environmental Consulting, Inc. is not applying for this service category.

4.2.21 Communication/Education Services-Information Transfer & TMDL Technical Editing.

Geum Environmental Consulting, Inc. is not applying for this service category.

4.2.22 Land Use Planning Services.

Geum Environmental Consulting, Inc. is not applying for this service category.

4.2.23 Preparation of Technical Manuals or Circulars.

Geum Environmental Consulting, Inc. is applying for this service category.

References.

Montana Department of Fish, Wildlife and Parks
3201 Spurgin Road
Missoula, MT 59804
Point of Contact: Chris Clancy
(406) 542-5500
Dates of Service: 2001 to Present
Location of Services Provided: Bitterroot River and Clark Fork River
Services Provided: Development of riparian revegetation brochure.

Plum Creek Timber Company
P.O. Box 1990
Columbia Falls, Montana 59912
Point of Contact: Brian Sugden
(406) 892-6368
Dates of Service: July 1998 to December 2003
Location of Services Provided: Western Montana and the Thompson River, west of Kalispell, Montana.
Services Provided: Development of a restoration planning approach for the Thompson River.

Confederated Salish and Kootenai Tribes
P.O. Box 278
Pablo, Montana 59855
Point of Contact: Les Evarts
(406) 883-2888 ext. 7240
Dates of Service: Fall 2002 to Present
Location of Services Provided: Jocko River in the Flathead Indian Reservation of the Confederated Salish and Kootenai Tribes.
GIS Services Provided: Creation of GIS layers and suitability analysis to support restoration planning and GIS analysis for watershed-scale restoration planning efforts.

Confederated Salish and Kootenai Tribes
P.O. Box 278
Pablo, Montana 59855
Point of Contact: Mary Price
(406) 883-2888 ext. 7242
Dates of Service: Fall 2002 to Present
Location of Services Provided: Finley Flats Wetland Mitigation Sites in the Flathead Indian Reservation of the Confederated Salish and Kootanai Tribes.
Services Provided: Development of wetland mitigation crediting criteria.

Tri State Water Quality Council
4660 Spurgin Rd.
Missoula, MT 59804
Point of Contact: Will McDowell
(406) 327-8443
Dates of Service: March 2004 to Present
Location of Services Provided: Threemile Creek in the Bitterroot Valley in Western Montana.
Services Provided: Development of a set of restoration tools for Threemile Creek, participation in a community workshop about Threemile Creek.

Company Profile and Experience.

Geum Environmental Consulting (Geum) was founded in 2003 in Hamilton, Montana by ecologists and biologists interested in working with the local community to benefit the environment and natural resources. Key employees with Geum have over 20 years combined professional experience working in natural resource disciplines in Montana and the western United States. We offer high-quality, locally based professional service. Geum Environmental Consulting, Inc. consists of three natural resource professionals. Tom Parker is the principal ecologist specializing in ecological restoration design and information technology as it applies to natural resources. Amy Sacry is a fisheries biologist specializing in Montana fisheries habitat, fish surveys, wetland delineations, and wetland functional assessments. Sarah Flynn is a botanist/ecologist specializing in vegetation surveys and assessments, wetland delineation, and wetland functional assessment.

Geum employees have specific expertise applicable to the development of technical manuals or circulars in the areas of; environmental permitting and riparian/wetland revegetation. Tom Parker, principal ecologist for Geum, developed a riparian planting technical guide for the Bitterroot River and Clark Fork River in western Montana. Tom has also worked with an inter-governmental group to develop wetland mitigation crediting guidelines for the Evaro to Polson section of US 93 through the Flathead Indian Reservation. In general, many of the planning documents we develop include a toolbox and strategies section that functions as general guidance intended for use during specific project design. For this reason, we have included references for whom we have developed conceptual and detailed restoration plans. We believe an appropriate role for consultants is to train client staff by interacting closely with those staff during a focused project development period. This training takes several forms, including adding client staff to our field crews during data collection, preparing written guidance, and establishing models for presenting projects to regulatory agencies and potential funding sources.

Method of Providing Services & Quality Assurance.

While reviewing potential riparian restoration projects on the Bitterroot River, Tom Parker and Chris Clancy identified a need for a simple resource, targeting landowners, that would provide basic information about native riparian shrubs and methods for planting shrubs during stream restoration projects. The project idea was presented to Montana Fish, Wildlife and Parks staff who provided funding for development of a brochure. Tom developed the brochure, and arranged to have it reviewed by Bitterroot Restoration technical staff and Montana Fish, Wildlife and Parks staff. Tom prepared the brochure using Microsoft Publisher, and the State of Montana used their printing resources to publish the brochure at a total cost to the state of $5000.

Staff Qualifications.

Geum Personnel	Degrees	Years of Professional Experience	Years of Experience on Similar Projects	Specialty Training Applicable to Service Category	Professional Registrations*	Professional Rate
Tom Parker	MS Resource Conservation BA Forestry	15	15	None	SWS	$65.00/hour
Amy Sacry	MS Resource Conservation BS Biology	5	5	None	AFS SWS	$50.00/hour
Sarah Flynn	BA Biology	2	2	None	SWS	$45.00/hour

*SWS – Society of Wetland Scientists
AFS – American Fisheries Society

Tom Parker
Principal Ecologist

Tom has experience writing technical documents relating to revegetation, ecological restoration, wetlands mitigation and wetlands policy. He has presented technical information at workshops for the International Erosion Control Association, US Forest Service, Threemile Watershed Group, NRCS, and at several conferences and symposiums.

Amy Sacry
Biologist

Amy has technical expertise in the areas of fish habitat assessment and restoration, and the Endangered Species Act. In addition, she has extensive experience in document preparation, preparation of figures or tables, and preparation and use of spreadsheets.

Sarah Flynn
Ecologist/Botanist

Sarah has technical expertise in the areas of weed management. While a student at the University of Montana, she developed a technical guide on biology, distribution and identification of hawkweed species. In addition, Sarah has extensive experience in document preparation, preparation of figures or tables, and preparation and use of spreadsheets.